

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of

Ulrich STIMMING et al.

Serial No.: 10/054,213

Filed: November 13, 2001

For: Fuel Cell with Pulsed Anode Potential

Examiner: J. Crepeau

Group Art: 1745

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Commissioner for Patents

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**APPELLANT'S REPLY BRIEF**

SIR:

This is appellant's reply brief in response to the Examiner's Answer mailed November 15, 2006 under 37 C.F.R. §41.41.

The Examiner's Answer makes new points of argument within section (10) Response to Argument.

The Examiner alleges in the last two lines on page 4 of the Examiner's Answer that applicant does not offer support for the argument that the fuel starvation step of Wilkinson can not be considered to be "means for impressing a positive voltage pulse on the anode". It is applicant's contention that the claim language requires a voltage pulse to be applied to the anode (applying an externally generated voltage pulse or applying the voltage of the cathode to the anode, i.e., short

circuiting the anode to the cathode). In contrast, Wilkinson merely allows the charge on the anode to dissipate by starving the anode. The act of fuel starving disclosed by Wilkinson is analogous to allowing a voltage across a capacitor (or other charge holding device) to dissipate, which can not be considered to disclose “impressing a positive voltage on the anode”. More specifically, the mere dissipation of the potential between the anode and cathode of a fuel cell by fuel starvation and/or by connecting a load as described in Wilkinson can not be considered to disclose “means for impressing a positive voltage pulse on the anode” or the “step of impressing at least one positive voltage pulse on the anode”, as expressly recited in independent claims 1 and 2.

With respect to the Examiner’s §112, sixth paragraph analysis, the Examiner contends that “an artisan would recognize that although Wilkinson produces a voltage pulse by fuel starving, a voltage pulse could be just as easily generated by an external source” (page 7, lines 1-4 of the Examiner’s Answer). As evidence of the interchangeability, the Examiner cites Fedkiw et al. (J. Electrochem. Soc., 1988). However, there is no motivation to combine the teaching of Wilkinson and Fedkiw. Wilkinson teaches away from impressing a voltage pulse because impressing a voltage pulse requires an additional electrical connection to the anode (even the short-circuit embodiment requires a switch to selectively connect the cathode and anode).

Accordingly, independent claim 1-2 are each allowable over the prior art of record (Wilkinson and Fedkiw).

Regarding the present invention antedating Wilkinson, which the Examiner discusses starting at page 8, line 12, of the Examiner’s Answer, the English language abstract and drawings of DE 197 10 819, which was filed on March 15, 1997, disclose the adding of an externally generated voltage pulse to the anode potential. Furthermore, Fig. 2 of the priority document shows that the added pulses do not change the polarity of the fuel cell. Thus, the filing

date of Wilkinson, December 23, 1997, is after the invention by applicant (the filing date of DE 197 10 819 being the constructive date of the present invention).

For all of the above reasons, it is respectfully submitted that the final rejection should be reversed and claims 1-13 allowed.

It is believed that no payment or insufficient payment fees are required in connection with the filing of this reply brief. However, if any fees are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,  
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